American College of Radiology
ACR Appropriateness Criteria®

Chronic Foot Pain

Variant 1: Chronic foot pain. Unknown etiology. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography foot	Usually appropriate	Moderate	☢ <0.1 mSv	☢ <0.03 mSv [ped]	9	9	0	0	0	0	0	0	0	0	0

References	Study Quality
11 (18894612)	4
13 (25805712)	4
14 (23811947)	4
15 (16697701)	2
5 (20439021)	4
12 (8356270)	4

CT foot with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT foot without IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT foot without and with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
MRI foot without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
MRI foot without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0

Bone scan foot	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
US foot	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0

Variant 2: Persistent posttraumatic foot pain. Radiographs negative or equivocal. Clinical concern includes complex regional pain syndrome type I. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	20 (7892471)		3												
	19 (17515744)		2												
	17 (22177715)		Inadequate												
	18 (24161450)		4												
3-phase bone scan foot	Usually appropriate	Limited	☢☢☢ 1-10 mSv		7	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	16 (1620860)		3												
	17 (22177715)		Inadequate												
MRI foot without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	20 (7892471)		3												
	19 (17515744)		2												
	17 (22177715)		Inadequate												
	18 (24161450)		4												
US foot	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

			References		Study Quality											
			22 (9798855)		4											
CT foot with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT foot without IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT foot without and with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

Variant 3: Chronic metatarsalgia including plantar great toe pain. Radiographs negative or equivocal. Clinical concern includes sesamoiditis, Morton's neuroma, intermetatarsal bursitis, chronic plantar plate injury, or Freiberg's infraction. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	3	10

References	Study Quality
39 (8372200)	4
37 (9114115)	3
38 (17420632)	3
36 (25809742)	Good
40 (22727342)	2
32 (11706214)	4
44 (19038613)	4
41 (28109309)	4
12 (8356270)	4
33 (9765133)	4
34 (10551246)	3
35 (9016241)	3
42 (20308514)	4

		43 (12668744)	4												
		45 (30685010)	4												
US foot	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	5	3	3	2	0
		References	Study Quality												
		49 (16819605)	3												
		36 (25809742)	Good												
		47 (25466436)	4												
		41 (28109309)	4												
		46 (25027985)	2												
		48 (28398696)	2												
CT foot without IV contrast	May be appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	5	5	1	0	0	1	7	2	2	0	0
		References	Study Quality												
		29 (19038614)	4												
		30 (21817003)	3												
		28 (12627621)	4												
		31 (8079860)	4												
MRI foot without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	2	1	9	1	0	0	1
		References	Study Quality												
		37 (9114115)	3												
		38 (17420632)	3												
		36 (25809742)	Good												
		40 (22727342)	2												
		32 (11706214)	4												
		44 (19038613)	4												
		41 (28109309)	4												
		12 (8356270)	4												
		33 (9765133)	4												
		34 (10551246)	3												

		35 (9016241)		3											
		42 (20308514)		4											
		43 (12668744)		4											
		45 (30685010)		4											
Bone scan foot	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	1	0	3	2	6	2	0	0	0
		References		Study Quality											
		12 (8356270)		4											
		24 (7633586)		2											
		26 (11595853)		4											
		27 (3806228)		4											
CT foot with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	11	0	2	0	0	0	0	0	0
		References		Study Quality											
		29 (19038614)		4											
		30 (21817003)		3											
		28 (12627621)		4											
		31 (8079860)		4											
CT foot without and with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0
		References		Study Quality											
		29 (19038614)		4											
		30 (21817003)		3											
		28 (12627621)		4											
		31 (8079860)		4											

Variant 4: Chronic plantar heel pain. Radiographs negative or equivocal. Clinical concern includes plantar fasciitis or plantar fascia tear. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	2	11
	References		Study Quality												
	52 (10470906)		4												
	53 (20964964)		3												
US foot	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	1	2	4	4	2
	References		Study Quality												
	58 (19664484)		4												
	54 (16040817)		1												
	57 (27957702)		4												
	55 (-3145751)		3												
	56 (-3145753)		2												
Bone scan with SPECT or SPECT/CT foot	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	5	1	2	3	1	0	1	0	0
	References		Study Quality												
	50 (18806575)		4												
	51 (2054987)		4												
CT foot with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	12	1	0	0	0	0	0	0	0
CT foot without IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	10	0	0	2	1	0	0	0	0
CT foot without and with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	13	0	0	0	0	0	0	0	0
MRI foot without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	8	0	2	1	1	1	0	0	0
	References		Study Quality												

52 (10470906)	4
53 (20964964)	3

Variant 5: Nonradiating chronic midfoot pain of suspected osseous origin. Radiographs negative or equivocal. Clinical concern includes occult fracture, or painful accessory ossicles. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	2	11

References	Study Quality
72 (22078792)	4
69 (8571860)	4
65 (11858605)	4
74 (27888854)	4
71 (26888876)	2
75 (27885856)	4
64 (29876712)	3
70 (26557590)	3
73 (29228800)	4

CT foot without IV contrast	Usually appropriate	Moderate	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	7	7	0	0	0	0	4	0	3	4	2

References	Study Quality
69 (8571860)	4
66 (15333345)	3
65 (11858605)	4
68 (15018183)	4
67 (29679212)	Good
64 (29876712)	3

Bone scan foot	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	4	0	0	3	6	3	1	1	0	0

References	Study Quality
61 (1424449)	4
60 (21540716)	4
62 (15230772)	4
63 (25210293)	4
59 (30788224)	4

US foot	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	5	0	4	1	2	1	0	0	0

References	Study Quality
78 (20489099)	2
79 (18064426)	3
62 (15230772)	4
77 (22506252)	4
76 (10477883)	4

CT foot with IV contrast	Usually not appropriate	Moderate	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0

References	Study Quality
69 (8571860)	4
66 (15333345)	3
65 (11858605)	4
68 (15018183)	4
67 (29679212)	Good
64 (29876712)	3

CT foot without and with IV contrast	Usually not appropriate	Moderate	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	13	0	0	0	0	0	0	0	0

References	Study Quality
69 (8571860)	4
66 (15333345)	3

65 (11858605)	4
68 (15018183)	4
67 (29679212)	Good
64 (29876712)	3

MRI foot without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	0	2	0	1	1	0	0	0

References	Study Quality
72 (22078792)	4
69 (8571860)	4
65 (11858605)	4
74 (27888854)	4
71 (26888876)	2
75 (27885856)	4
63 (25210293)	4
64 (29876712)	3
70 (26557590)	3
73 (29228800)	4

Variant 6: Chronic foot pain. Entrapment Syndromes. Radiographs negative or equivocal. Clinical concern includes Baxter's neuropathy. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	1	1	11

References	Study Quality
80 (19703848)	2

US foot	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	1	0	2	0	0	11	0	0

References	Study Quality
81 (23980227)	3

CT foot with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0	0
CT foot without IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	10	0	2	0	0	1	0	0	0	0
CT foot without and with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0	0
MRI foot without and with IV contrast	Usually not appropriate	Expert Opinion	O 0 mSv	O 0 mSv [ped]	1	1	10	0	0	0	1	1	0	0	1	
		References		Study Quality												
		80 (19703848)		2												
Bone scan with SPECT or SPECT/CT foot	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	13	0	0	0	0	0	0	0	0	0

Appendix Key

A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

Appropriateness Category: The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

SOE: Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality**: The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

RRL: Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

Rating: The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Median: The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Final tabulations: A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at **www.acr.org/ac.**